CLAIMS

1. An aluminum alloy containing at least 0.0001 mass % and not more than 0.03 mass % of copper, at least 0.0005 mass % and not more than 0.2 mass % of silicon, at least 0.5 mass % and not more than 4 mass % of manganese and at least 0.5 mass % and not more than 3 mass % of iron, with the rest containing aluminum and unavoidable impurities.

2. The aluminum alloy according to claim 1, containing at least 1.0 mass % and not more than 3.0 % of manganese and at least 0.7 mass % and not more than 1.2 mass % of iron.

3. The aluminum alloy according to claim 1, containing at least one element selected from a group consisting of at least 0.01 mass % and not more than 0.5 mass % of chromium, at least 0.01 mass % and not more than 0.5 mass % of titanium and at least 0.01 mass % and not more than 0.5 mass % of zirconium.

4. An aluminum alloy foil having a thickness, elongation and yield strength so selected that the relation between the yield strength YS (N/mm^2) and the thickness X (μm) satisfies an inequality $YS > 28.7\ 1n(X) - 30$ and the relation between the elongation El (%) and the thickness X (μm) satisfies an inequality $El > 0.15X + 3.5$.

5. A method of preparing the aluminum alloy foil according to claim 4, comprising steps of:

heating up an ingot of an aluminum alloy to a temperature of at least 350°C and not more than 580°C;

hot-rolling said ingot of said aluminum alloy at a starting temperature of at least 350°C and not more than 530°C after the heating up thereby obtaining a plate material;

cold-rolling said plate material after the hot rolling; and

softening said plate material after the cold rolling.

6. The method of preparing the aluminum alloy foil according to claim 5, further comprising a step of retaining said ingot of said aluminum alloy at a temperature of at least 350°C and not more than 580°C for not more than 15 hours after said step of heating up said ingot, and

carrying out said step of hot-rolling said ingot for obtaining said plate material after said holding step.

7. The method of preparing aluminum alloy foil according to claim 5, carrying out said step of hot-rolling said ingot for obtaining said plate material immediately after said step of heating up said ingot.

8. The method of preparing the aluminum alloy foil according to claim 5, wherein said step of softening said plate material includes an operation of retaining said plate material at a temperature of at least 270°C and not more than 380°C for at least one hour and not more than 20 hours.

9. An aluminum alloy foil consisting of an aluminum alloy containing at least 0.0001 mass % and not more than 0.01 mass % of copper, at least 0.0005 mass % and not more than 0.1 mass % of silicon, at least 1.0 mass % and not more than 3.0 mass % of manganese and at least 0.7 mass % and not more than 1.2 mass % of iron with the rest containing aluminum and unavoidable impurities and having a thickness, elongation and yield strength so selected that the relation between the yield strength YS (N/mm^2) and the thickness X (μm) satisfies an inequality $YS > 28.7\ 1n(X) - 30$ and the relation between the elongation El (%) and the thickness X (μm) satisfies an inequality $El > 0.15X + 3.5$.

10. A container consisting of the aluminum alloy foil according to claim 9 and having a thickness of at least 50 μm and not more than 200 μm.